APPENDIX D

Evaluation and Treatment of Renewable Energy Resources and Independent Power Producers in the Integrated Resource Planning Process

Compiled by HECO based on information provided by collaborative parties

APPENDIX D

EVALUATION AND TREATMENT OF RENEWABLE ENERGY RESOURCES AND INDEPENDENT POWER PRODUCERS IN THE INTEGRATED RESOURCE PLANNING PROCESS

Consideration of Renewables in IRP Processes

The PUC adopted a Framework for Integrated Resource Planning ("IRP Framework") in 1992.[1] Hawaii's electric utilities submitted their first integrated resource plans ("IRP Plans") in 1993.[2] The preferred 20-year IRP Plans submitted by the electric utilities did not include new renewable resources.[3]

The IRP Framework requires that electric utilities consider all feasible supply-side options appropriate to Hawaii and available within the IRP horizon to meet the IRP objectives, which includes RE resources. IRP Framework ¶¶I ("Supply-Side Programs"), IV.D.1. The supply-side resources considered by utilities in their IRP processes include resources that are or may be supplied by persons other than the utilities (e.g., resources that may be supplied by NUGs[4]). IRP Framework, ¶IV.D.2.

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[1] See Re Integrated Resource Planning, Docket No. 6617, Decision and Order No. 11523 (March 12, 1992) ("D&O 11523"), as amended by Decision and Order No. 11630 (May 22, 1992) ("D&O 11630").

[2] The plans were also modified by the utilities during the course of PUC proceedings to review the plans in 1994.

[3] Each of the electric utilities currently purchases power produced from renewable resources. The 5-year Supply-Side Actions Plans submitted by the HECO Utilities include activities and budgets to study the feasibility and benefits of various renewable resources and energy storage facilities. KE's IRP Plan update included a "Renewable Energy Resource Implementation Plan", which identifies as required steps (1) improving information on RE resources and conversion technologies, (2) educating the public to maximize meaningful community input, and (3) developing hands-on experience through demonstration projects, and which indicates that KE will seek sources of funding to implement the steps.

[4] Non-utility generators ("NUGs") or independent power producers ("IPPs").

A number of parties in the IRP proceedings (arising out of the electric utilities initial IRP Plan filings in 1993) maintained that the electric utilities did not adequately consider renewables.

In HECO's IRP process, supply-side resources were considered in the supply-side screening processes and the early phases of the integration process without distinction as to ownership. In the HECO IRP proceeding, Docket No. 7257, a wind producer and DBEDT maintained that HECO did not adequately consider wind energy in its preferred IRP Plan (based on contentions that HECO overestimated the cost of producing energy from wind energy facilities and did not correctly characterize certain aspects of such facilities).

HECO disagreed with the factual claims, and indicated that it did not plan to construct wind energy facilities itself at this time, even if the cost was lower than HECO had estimated, given (1) the still-developing nature of the technology, (2) the risk of investing in such facilities versus the return available to HECO as a utility, (3) the as-available nature of wind energy, and (4) its need to proceed with the planning and implementation of other demand-side and supply-side resources. HECO also maintained that its cost estimates for and characterization of new wind power resources would not determine whether new wind resources were added to HECO's system, because (1) there is no shortage of potential wind power developers, and if wind energy facilities are cost-effective under the PUC's avoided cost rules, HECO will purchase energy from such facilities at its avoided cost, and (2) the utility's preferred plans were consistent with the potential ultimate implementation of alternate plans that include renewable resources.

The CA maintains that HECO "made its assessment of the supply-side resources without distinction as to the ownership of the resources", but this approach was taken only with regard to HECO's initial assessment of supply-side resources in the screening process and the early phases of the integration process. At a certain point in the assessment of supply resources HECO rejected certain (renewable) options from further assessment on the basis that these options would not be built by the utility, but would be built by IPP's. On this basis renewables were not considered in the utility resource plans. It is not correct, the PUC's order notwithstanding, that resources were assessed without distinction to ownership. In the end, renewable resources were rejected based solely upon the basis of ownership.

The results of HECO's policy of not including renewables in its IRP because the resources would not be built by the utility is of much more than academic concern. If the multiple attributes considered in the utility IRP would indicate that a renewable resource were part of the preferred resource mix, the utility could include the resource in its preferred plan and could build the resource at the price of the resource - even if the resource would cost more than the avoided costs of the least-dollar-cost plan. By leaving the resource out of its plan on the basis that other independent providers would build the renewable resource, the preferred plan is instead based upon least-dollar-cost resources. The avoided costs of these least-dollar-cost resources do not provide enough revenue to build the renewable resource. Thus even if the multiple attributes considered in the IRP process indicate that a renewable resource is the best resource, the elimination of renewables from IRP serves as an effective barrier. HECO's approach of eliminating renewables from its plan serves as an effective barrier to the implementation of the renewables by independent power producers.

The PUC addressed the absence of wind energy or other renewable resources in HECO's current IRP Plan. The PUC indicated that the results of the study it is conducting in the IRP docket:

> "should assist in HECO's consideration of wind energy and other renewable resources in its future integrated resource planning cycles. At this time, we find HECO's assessment of wind energy as a conventional, supplemental resource providing intermittent, generally non-dispatchable, as-available, energy to be reasonable."

D&O 13839 at 16-17. The issue of whether new renewables should have been included in the utilities' preferred IRP Plans was also raised in the MECO and HELCO IRP proceedings, which have not yet been decided by the PUC.

In its first IRP analysis (filed in October 1993), KE did not consider new renewables to be feasible for use in the near-term:

> KE classified possible supply-side options into two categories: "technologies feasible for mid-term use" and "technologies suitable for future consideration." KE included in the latter category those options that are technologically feasible, but "not as politically or economically attractive to KE as other options that are presently available." It considered these options as options "that may become desirable in the future." KE identified the following as resource options for future consideration: hydro and pumped storage, solar, wind, biomass, fuel cells, and waste-to-energy. Except to identify them and to describe the implementation difficulties associated with each of them (such as difficulties in siting, permitting, and assuaging environmental concerns), KE did not subject any of these resource options to cost-benefit and cost-effectiveness analyses.[5]

The PUC found that "the fact that these resources are not 'politically or economically attractive' or that there may be land use or other similar barriers to their full deployment are not reasonable bases for rejecting the resources for further consideration", and that "KE should have subjected them to cost-benefit, cost-effectiveness, and resource optimization analyses." D&O 14026 at 13. However, since KE would not require any new supply-side resources for at least five years, the PUC did "not require KE to incorporate additional funding for renewable energy development in its current IRP. However, we expect KE to consider renewable energy resource options and subject them to rigorous cost-benefit, cost-effectiveness, and, as appropriate, resource optimization analyses in its future integrated resource planning efforts." D&O 14026 at 15.

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[5] Re Kauai Electric Division, Docket No. 7260, Decision and Order No. 14026 (July 28, 1995) ("D&O 14026") at 13.

Consideration of IPPs in IRP Processes

A number of parties in the IRP proceedings maintained that the electric utilities did not adequately consider NUGs. In the HECO IRP proceeding, HECO maintained that (1) the candidate list of supply-side resource options included supply-side alternatives (including renewable resources), which were evaluated without regard to individual ownership subject to the criteria established in the supply-side resource assessment phase, and (2) the utility's preferred plans were consistent with the potential ultimate implementation of alternate plans that include renewable resources.

The PUC addressed this issue in Docket No. 7257, finding:

> Several parties, however, contend that HECO's IRP is defective for not considering non-utility generation as a resource option. Contrary to these parties' contentions however, HECO did consider and assess a broad range of supply-side resource options in its IRP analysis, including biomass and wind energy. It does not appear that HECO omitted any important supply-side resources from its analysis.
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> We acknowledge that there are no NUG specific projects or programmed for implementation by HECO in its 20-year planning horizon. However, this does not mean that there will be no NUG-operated facility during the period covered by the IRP. HECO made its assessment of the supply-side resources without distinction as to the ownership of the resources. NUGs are free to submit proposals to HECO for evaluation to implement, replace, or defer the resource options included in HECO's IRP.
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> The IRP framework does not specifically address the role of NUGs in the development or acquisition of the resources deemed appropriate in the IRP. However, the framework, at section IV.D.2, provides that the utility, in the development of its integrated resource plan, shall consider supply-side and demand-side resource options that "are or may be supplied by persons other than the utility." This provision was deliberately intended to leave to the implementation phase the determination of who should build and operate the resources included in

the IRP. NUG-supplied resources should be in conformance with the utility's IRP.

The commission intends shortly to institute an investigation into electric utility regulation in a competitive environment. In that investigative docket, we intend to address more specifically the role of NUGs in a utility's IRP. To be included in the investigation is the issue of competitive bidding, proposed by several parties in this docket, as a mechanism for the acquisition of the resources specified in a utility's IRP.

D&O 13839 at 14-16 (ft. nt. omitted).